

## **Metadata for Congaree Swamp National Monument, Spatial Vegetation Data: Cover type / Association level of the National Vegetation Classification System**

### Identification\_Information:

#### Citation:

##### Citation\_Information:

Originator: American Geographic Data, Inc., Wilmington, NC 28403

Publication\_Date: 200110

#### Title:

Congaree Swamp National Monument Spatial Vegetation Data;  
Cover Type / Association level of the National Vegetation Classification System

Edition: Version 1

Geospatial\_Data\_Presentation\_Form: map

#### Series\_Information:

Series\_Name: USGS-NPS Vegetation Mapping Program

Issue\_Identification: Congaree Swamp National Monument

#### Publication\_Information:

Publication\_Place: Denver, CO

Publisher: USGS, Biological Resources Division, Center for Biological Informatics

#### Other\_Citation\_Details:

The aerial photography is near CIR 1:12000 scale. The camera calibration report is USGS report Number OSL/2157 dated January 17, 1996 Created under contract to the USGS-BRD-CBI.

Online\_Linkage: [http://biology.usgs.gov/npsveg/cosw/index.html#geospatial\\_veg\\_info](http://biology.usgs.gov/npsveg/cosw/index.html#geospatial_veg_info)

### Description:

#### Abstract:

The National Park Service (NPS), in conjunction with the Biological Resources Division (BRD) of the U.S. Geological Survey (USGS), has implemented a program to "develop a uniform hierarchical vegetation methodology" at a national level. The program will also create a geographic information system (GIS) database for the parks under its management. The purpose of the data is to document the state of vegetation within the NPS service area during the 1990's, thereby providing a baseline study for further analysis at the Regional or Service-wide level. The vegetation units of this map were determined through stereoscopic interpretation of aerial photographs supported by field sampling and ecological analysis. The vegetation boundaries were identified on the photographs by means of the photographic signatures and collateral information on slope, hydrology, geography, and vegetation in accordance with the Standardized National Vegetation Classification System (October 1995). The mapped vegetation reflects conditions that existed during the specific year and season that the aerial photographs were taken (April, 1996). There is an inherent margin of error in the use of aerial photography for vegetation delineation and classification.

#### Purpose:

The purpose of this spatial data is to provide the National Park Service the necessary tools to manage the natural resources within this park system. Several parks, representing different regions, environmental conditions, and vegetation types, were chosen by BRD to be part of the prototype phase of the program. The initial goal of the prototype phase is to "develop, test, refine, and finalize the standards and protocols" to be used during the production phase of the project. This includes the development of a standardized vegetation classification system for each park and the establishment of photointerpretation, field, and accuracy assessment procedures. Congaree Swamp National Monument was designated as one of the prototype parks. Congaree Swamp National Monument, established in 1976, was designated as one of the prototypes within the National Park System. The park contains approximately 22,200 acres (34 square miles). Congaree Swamp National Monument is

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### Congaree Swamp National Monument

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located approximately 15 miles southeast of Columbia, the state capitol of South Carolina. The Congaree River, draining over 8,000 square miles of Piedmont land to the northwest, forms the southern border.

#### Supplemental\_Information:

On June 30, 1983, Congaree Swamp National Monument became an International Biosphere Reserve. Congaree is noted for containing one of the last significant stands of old growth bottomland hardwood forest, over 11,000 acres in all. The Monument contains over 90 species of trees, 16 of which hold state records for size. Included in this list of records is a national record sweet gum with a basal circumference of nearly 20 feet.

#### Time\_Period\_of\_Content:

##### Time\_Period\_Information:

##### Single\_Date/Time:

Calendar\_Date: 19960427

Currentness\_Reference: Date of aerial photo acquisition

#### Status:

Progress: Complete

Maintenance\_and\_Update\_Frequency: None Planned

#### Spatial\_Domain:

##### Description\_of\_Geographic\_Extent:

Congaree Swamp National Monument is located approximately 15 miles southeast of Columbia, the state capitol of South Carolina. Old Bluff Highway (old Highway 48) lies just north of the Monument boundary. The eastern boundary is located just northwest of the confluence of the Congaree and Wateree Rivers. The Monument extends west to where Cedar Creek and Myers Creek join.

##### 99.1.5.2 Bounding Rectangle Coordinates

#### Bounding\_Coordinates:

West\_Bounding\_Coordinate: -80.85

East\_Bounding\_Coordinate: -80.67083

North\_Bounding\_Coordinate: 33.84167

South\_Bounding\_Coordinate: 33.75

#### Keywords:

##### Theme:

Theme\_Keyword\_Thesaurus: None

Theme\_Keyword: National Park Service

Theme\_Keyword: U.S. Geological Service

Theme\_Keyword: The Nature Conservancy

Theme\_Keyword: Aerial Information Systems

Theme\_Keyword: Center for Biological Informatics

Theme\_Keyword: land cover

Theme\_Keyword: vegetation

Theme\_Keyword: community

Theme\_Keyword: association

Theme\_Keyword: Environmental System Research Institute

##### Place:

Place\_Keyword\_Thesaurus: None

Place\_Keyword: Congaree Swamp National Monument

Place\_Keyword: South Carolina

Place\_Keyword: USA

##### Stratum:

Stratum\_Keyword\_Thesaurus: None

Stratum\_Keyword: Upland Zone

Stratum\_Keyword: Transitional Zone

Stratum\_Keyword: Floodplain Zone

Stratum\_Keyword: Congaree River Bank and Levee Zone

Stratum\_Keyword: Disturbance Areas

#### Taxonomy:

##### Keywords/Taxon:

**USGS-NPS Vegetation Mapping Program**  
**Congaree Swamp National Monument**

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Taxonomic\_Keyword\_Thesaurus: None

Taxonomic\_Keywords: Plant Communities

Taxonomic\_Keywords: National Vegetation Classification System

Taxonomic\_System:

Classification\_System/Authority:

Classification\_System\_Citation:

Citation\_Information:

Originator:

United States Department of the Interior National Biological Survey and National Park Service

Publication\_Date: 19941101

Title:

Standardized National Vegetation Classification  
System

Edition: Version 1

Geospatial\_Data\_Presentation\_Form: Document - Classification System

Series\_Information:

Series\_Name: NBS/NPS Vegetation Mapping Program

Issue\_Identification: Final Draft

Publication\_Information:

Publication\_Place: Redlands, California

Publisher: ESRI

Other\_Citation\_Details: Prepared by the Nature Conservancy

Classification\_System\_Modifications:

The criteria differs primarily in that the height and density variables were not mapped at Congaree Swamp. Instead, two additional variables were addressed: pre-hurricane Hugo community types and areas of pine that have been logged since the time of the 1976 aerial photography.

Identification\_Reference:

Citation\_Information:

Originator:

United States Department of the Interior National Biological Survey and National Park Service

Publication\_Date: 19941101

Title:

Standardized National Vegetation Classification  
System

Edition: Version 1

Geospatial\_Data\_Presentation\_Form: Classification System

Series\_Information:

Series\_Name: NBS/NPS Vegetation Mapping Program

Issue\_Identification: Final Draft

Publication\_Information:

Publication\_Place: Redlands, California

Publisher: ESRI

Other\_Citation\_Details: Prepared by the Nature Conservancy

Taxonomic\_Procedures:

See "Photo Interpretation Report, BRD/NPS Vegetation and Inventory and Mapping Program,  
Congaree Swamp National Monument," October 12, 1998 <[http://biology.usgs.gov/npsveg/cosw/pi\\_rpt.pdf](http://biology.usgs.gov/npsveg/cosw/pi_rpt.pdf)>

General\_Taxonomic\_Coverage:

Vegetation Alliances of the National Vegetation Classification System (October 1995)

Taxonomic\_Classification:

Taxon\_Rank\_Name: Kingdom

Taxon\_Rank\_Value: Plantae

Applicable\_Common\_Name: s: Plants

Access\_Constraints: None

Use\_Constraints:

Any person using the information presented here should fully understand the data collection and compilation procedures, as described in these metadata, before beginning analysis. The burden

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for determining fitness for use lies entirely with the user. For purposes of publication or dissemination, citations should be given to the U.S. Geological Survey and the National Park Service

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##### **Contact\_Person\_Primary:**

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### **Browse\_Graphic:**

Browse\_Graphic\_File\_Name: <http://biology.usgs.gov/npsveg/cosw/images/coswveg.jpg>

Browse\_Graphic\_File\_Description: 257 Kbyte, Vegetation distribution of Congaree Swamp National Monument and environs; low resolution for web browser

Browse\_Graphic\_File\_Type: JPEG

### **Security\_Information:**

Security\_Classification\_System: None

Security\_Classification: None

Security\_Handling\_Description: None

Native\_Data\_Set\_Environment: NT-ARC/INFO

### **Data\_Quality\_Information:**

#### **Attribute\_Accuracy:**

##### **Attribute\_Accuracy\_Report:**

Code verification involved running each coverage attribute file through a series of ARC/INFO commands that checked for invalid codes. These commands produced listings that aided in identifying abnormal codes. The errors were checked against the vegetation delineation and attribute overlays. Corrections were made to the listings and input into the database. ESRI produced a plot of the converted spatial data and sequence numbers (label I.D.s) for the manuscript. The plot was checked by AIS for cartographic quality of the arcs defining the polygon features and the accuracy of the label I.D. assignments. The plot was overlaid to the manuscript map to verify that the scanned data was not distorted beyond .02 map inches. Other problems were noted on the plots, such as overshoots and undershoots, missing lines, premature convergence of polygon boundary lines that intersected arcs at acute angles, and incorrect sequence number assignments. ESRI produced code verification plots of the community association codes, height and density codes, and land use code attributes. The plots were checked for coding errors that may have occurred during the polygon attribute encoding step. The plots were overlaid on the manuscript map with attached corresponding code attribute overlay created in the manual rectification step. Code changes were noted on the plot. The edited plots were delivered back to ESRI for correction of the attribute files. Processors conducted interactive ARCEDIT sessions to make the necessary corrections to the coverages.

For accuracy assessment, a field visit was made to 585 points between October, 1999 and May 2000.

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Points were located through the use of a PLGR GPS unit and false-color infrared photographs. At each point dominant vegetation types were recorded and a field key was used to determine the plant community / cover type present. Over 85 percent of the points were reached on foot, the remainder were located by boat. When all of the points were visited, two tables were generated comparing the field interpretation of the polygons with that of the photointerpreters. The final accuracy assessment was performed through a statistical analysis of the data using contingency tables and statistical tests. Most of the problems noted were related to map class definition and terminology and did not involve map accuracy per se. Through the use of contingency tables and other statistics, the overall accuracy of the provisional map was calculated as 87 percent. The statistics from only one class, the "Celtis laevigata - Liquidambar styraciflua - Quercus laurifolia / Carpinus caroliniana / Arundinaria gigantea / Carex lupulina Forest-Sweetgum component" failed to meet the NPS 80 percent accuracy standards. Data indicates that this class may be undermapped, being more widespread than was actually mapped. See "Summary Report on the Results of an Accuracy Assessment of the National Park Service's Provisional Vegetation Map of Congaree Swamp National Monument" at <[http://biology.usgs.gov/npsveg/cosw/aa\\_rpt.pdf](http://biology.usgs.gov/npsveg/cosw/aa_rpt.pdf)> for further details.

### Logical\_Consistency\_Report:

All polygon features are checked for topology using the ARC/INFO software. Each polygon begins and ends at the same point with the node feature. All nodes are checked for error so that there are no dangling features. There are no duplicate lines or polygons. All nodes will snap together and close polygons based on a specific tolerance. If the node is not within the tolerance, it is adjusted manually. The test for logical consistency are performed in ARC/INFO.

### Completeness\_Report:

All data that can be photointerpreted are also digitized. This includes association/community classes, surface water, and unvegetated/landuse.

### Positional\_Accuracy:

#### Horizontal\_Positional\_Accuracy:

##### Horizontal\_Positional\_Accuracy\_Report:

Unknown. The positional accuracy of the base topographic quadrangles is not known. It is assumed the map meets National Map Accuracy Standards.

#### Vertical\_Positional\_Accuracy:

##### Vertical\_Positional\_Accuracy\_Report:

Unknown. The positional accuracy of the base topographic quadrangles is not known. It is assumed the map meets National Map Accuracy Standards.

### Lineage:

#### Methodology:

##### Methodology\_Type: Field

##### Methodology\_Description:

Development of Photointerpretation Mapping Procedures The normal process in vegetation mapping is to conduct an initial field reconnaissance, map the vegetation units through photointerpretation, and then conduct a field verification. The field reconnaissance visit serves two major functions. First, the photointerpreter keys the signature on the aerial photos to the vegetation on the ground at each signature site. Second, the photointerpreter becomes familiar with the flora, vegetation communities and local ecology that occur in the study area. Park and/or TNC field biologists that are familiar with the local vegetation and ecology of the park are present to help the photointerpreter understand these elements and their relationship with the geography of the park. Upon completion of the field reconnaissance, photo interpreters delineate vegetation units on mylar that overlay the 9x9 aerial photos. This effort is conducted in accordance with the TNC vegetation classification and criteria for defining each community or alliance. The initial mapping is then followed by a field verification session, whose purpose is to verify that the vegetation units were mapped correctly. Any PI related questions are also addressed during the visit. The vegetation mapping at Congaree Swamp National Monument in general followed the normal mapping procedure as described in the above paragraph with two major exceptions: 1) Preliminary delineations for most of the park, including a set of Focused Transect overlays that were labeled with an initial PI signature commenced prior to the field reconnaissance visit. 2) A TNC classification did not exist at the time the initial delineations began. TNC ecologist and AIS photo interpreters worked together to develop

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an interim signature key which addressed what was known at the time. At that time, no comprehensive study containing plot data was available to create an interim classification. Development of Photointerpretation Mapping Criteria From the onset of the Vegetation Inventory and Mapping Program, a standardized program-wide mapping criteria has been used. The mapping criteria contains a set of documented working decision rules used to facilitate the maintenance of accuracy and consistency of the photointerpretation. This criteria assists the user in understanding the characteristics, definition and context for each vegetation community. The mapping criteria for Congaree Swamp National Monument was composed of four parts: · The standardized program-wide general mapping criteria · A park specific mapping criteria · A working photo signature key · The TNC classification, key and descriptions The following sections detail the mapping criteria used during the photointerpretation of Congaree Swamp. General Mapping Criteria The mapping criteria at Congaree Swamp are a modified version from previously mapped parks. The criteria differs primarily in that the height and density variables were not mapped at Congaree Swamp. Instead, two additional variables were addressed: pre-hurricane Hugo community types and areas of pine that have been logged since the time of the 1976 aerial photography. These two categories will be addressed in the Park Specific Mapping Criteria section of this report. Since forest densities within the Monument are nearly always greater than 60%, it served little or no purpose in addressing this element as a separate attribute in the database. In addition it was also determined that height categories are extremely difficult to map in the Monument due to variability of the tree emergent layer, and lack of any significant reference points that help in determining canopy heights. Alliance / Community Associations The assignment of alliance and community association to the vegetation is based on criteria formulated by the field effort and classification development. In the case of Congaree Swamp National Monument, TNC provided AIS with a tentative community classification in April 1998. A final vegetation classification, key, and descriptions of each alliance and community, was provided in October 1998. In addition, TNC provided AIS with detailed plot data showing how the communities were developed in the Monument.

### Methodology\_Citation:

#### Citation\_Information:

Originator: Aerial Information Systems (AIS), Ed Reyes

Publication\_Date: 19981012

Publication\_Time: Unknown

#### Title:

Photo Interpretation Report, BRD/NPS Vegetation and Inventory and Mapping Program,  
Congaree Swamp National Monument

Edition: Version 1

Geospatial\_Data\_Presentation\_Form: Report

#### Publication\_Information:

Publication\_Place: Denver, CO

Publisher: USGS, BRD, Center for Biological Informatics

Other\_Citation\_Details: Created under contract to the USGS-BRD-CBI.

Online\_Linkage: <[http://biology.usgs.gov/npsveg/cosw/pi\\_rpt.pdf](http://biology.usgs.gov/npsveg/cosw/pi_rpt.pdf)>

### Source\_Information:

#### Source\_Citation:

#### Citation\_Information:

Originator: USGS

Publication\_Date: 19960427

Title: Congaree Swamp National Monument CIR Aerial Photos

Geospatial\_Data\_Presentation\_Form: remote sensing image

#### Publication\_Information:

Publication\_Place: Wilmington, NC 28403

Publisher: American Geographic Data, Inc.

#### Other\_Citation\_Details:

The aerial photography is near CIR 1:12000 scale. The camera calibration report is USGS report

Number OSL/2157 dated January 17, 1996

Source\_Scale\_Denominator: 12000

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Type\_of\_Source\_Media: Near CIR Aerial Photos: Contact paper prints and film transparencies

Source\_Time\_Period\_of\_Content:

Time\_Period\_Information:

Single\_Date/Time:

Calendar\_Date: 19960427

Source\_Currentness\_Reference: Date of aerial photo acquisition

Source\_Citation\_Abbreviation: AGD

Source\_Contribution: These aerial photographs were the basis for the photointerpretation process

Process\_Step:

Process\_Description: See Methodology Description above

Source\_Used\_Citation\_Abbreviation: AGD

Process\_Date: 19981012

Spatial\_Data\_Organization\_Information:

Direct\_Spatial\_Reference\_Method: Vector

Spatial\_Reference\_Information:

Horizontal\_Coordinate\_System\_Definition:

Planar:

Grid\_Coordinate\_System:

Grid\_Coordinate\_System\_Name: Universal Transverse Mercator

Universal\_Transverse\_Mercator:

UTM\_Zone\_Number:

17

12

Transverse\_Mercator:

Longitude\_of\_Central\_Meridian: -81

Latitude\_of\_Projection\_Origin: 0

False\_Easting: 500000

False\_Northing: 0

Scale\_Factor\_at\_Central\_Meridian: 0.9996

Planar\_Coordinate\_Information:

Planar\_Coordinate\_Encoding\_Method: coordinate pair

Coordinate\_Representation:

Abscissa\_Resolution: 1

Ordinate\_Resolution: 1

Planar\_Distance\_Units: Meters

Geodetic\_Model:

Horizontal\_Datum\_Name: North American Datum of 1983

Ellipsoid\_Name: Geodetic Reference System 80

Semi-major\_Axis: 6378137

Denominator\_of\_Flattening\_Ratio: 298.257

Entity\_and\_Attribute\_Information:

Overview\_Description:

Entity\_and\_Attribute\_Overview:

The system is organized hierarchically to support conservation and resource stewardship applications across multiple scales. The upper levels of the hierarchy are based on the physical form or structure of the vegetation (physiognomy) and have been refined from the international standards developed by the United Nations Educational, Scientific, and Cultural Organization (UNESCO). The two most detailed levels of the hierarchy are based on the species composition of the existing vegetation (floristics) and reflect the phyto-sociological standards that were originally developed by European ecologists. The vegetation classification is continually advanced through the collection and analysis of new field data and will be greatly strengthened during the course of the USGS-NPS mapping efforts. USGS-NPS VEGETATION MAPPING PROGRAM Congaree Swamp National Monument, South Carolina Final Association/Community Classification October 12, 1998 Defines

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PhotoInterpretation Signature Type  
(PI)

- A. Mixed bottomland hardwoods
- B. Category lumped with type A
- C. Water tupelo dominant (at least 75%)
- D. Bald cypress dominant (at least 75%)
- E. Mixed bottomland hardwoods with emergent pine
- F. Swamp tupelo
- G. Swamp tupelo / mixed hardwoods - riparian associated
- H. Young plantation pine - even stands (pole or saplings)
- I. Mature plantation pine - often with a minor hardwood component
- J. Upland hardwoods and hardwoods in small depressions
- K. Mixed stands of upland hardwood and pine
- L. Hurricane damaged areas (open canopy, vines, shrubs, downed trees)
- M. Stands of even aged sweet gum
- N. Category lumped with type A
- O. Land use
- P. Clear and selectively cut areas
- Q. Category lumped with type A
- R. Category lumped with type A
- S. Category eliminate (use \* instead)
- T. Category lumped with type C
- U. Riverbank & levee forests associated with the Congaree
- V. Category lumped with type A
- W. Category lumped with type C
- X. Willow - Sand bars & young trees at the edge of the Congaree
- Y. Predominantly cottonwood near the edge of the Congaree

**COMMON MIXES**

- A/C Hardwoods mixing with water tupelo
- C/D Tupelo & bald cypress mix
- D/A Hardwoods & bald cypress
- F/A Hardwoods & swamp tupelo

Defines Mapping Classification Communities and Variants  
(TNC)

- 7211 *Fagus grandifolia* - *Quercus nigra* Forest
- 7726 *Liquidambar styraciflua* - *Quercus* (*nigra*, *phellos*) - *Pinus taeda* / *Vaccinium elliotii* - *Myrica cerifera* Forest
- 7727 *Acer saccharinum* / *Leersia lenticularis* - *Commelina virginica* Forest
- 4740 *Celtis laevigata* - *Fraxinus pennsylvanica* - *Acer negundo* - (*Juglans nigra*) / *Asimina triloba* / *Carex grayi* Forest
- 24271 *Celtis laevigata* - *liquidambar styraciflua* - *Quercus laurifolia* / *Carpinus caroliniana* / *Arundinaria gigantea* / *Carex lupulina* Forest
- 24272 *Celtis laevigata* - *liquidambar styraciflua* - *Quercus laurifolia* / *Carpinus caroliniana* / *Arundinaria gigantea* / *Carex lupulina* Forest - Sweet Gum component
- 7730 *Platanus occidentalis* - *Celtis laevigata* - *Fraxinus pennsylvanica* / *Lindera benzoin* - *Ilex decidua* / *Carex retroflexa* Forest
- 7731 *Populus deltoides* / *Acer negundo* / *Boehmeria cylindrica* Forest
- 7732 *Liquidambar styraciflua* - *Quercus nigra* - *Quercus laurifolia* / *Arundinaria gigantea* / *Carex abscondita* Forest
- 7734 *Salix nigra* - *Fraxinus pennsylvanica* Forest
- 7728 *Fraxinus pennsylvanica* / *Leersia lenticularis* - *Carex lupulina* Forest
- 7394 *Planera aquatica* Forest
- 4735 *Quercus lyrata* - *Quercus laurifolia* - *Taxodium distichum* / *Saururus cernuus* Forest
- 7403 *Quercus phellos* / *Carex* (*intumescens*, *joorii*) - *Chasmanthium sessiliflorum* / *Sphagnum lescurii* Forest
- 7719 *Taxodium distichum* - *Fraxinus pennsylvanica* - *Quercus laurifolia* / *Acer rubrum* / *Saururus cernuus* Forest
- 7431 *Taxodium distichum* - *Nyssa aquatica* / *Fraxinus caroliniana* Forest

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**Congaree Swamp National Monument**

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7432 *Taxodium distichum* - *Nyssa aquatica* / *Nyssa biflora* / *Fraxinus caroliniana* / *Itea virginica* Forest  
4631 *Liquidambar styraciflua* - *Quercus laurifolia* / *Magnolia virginiana* / *Carex folliculata* Forest  
4427 *Nyssa biflora* - (*Acer rubrum*) / *Ilex opaca* / *Leucothoe axillaris* / *Carex atlantica* ssp. *capillacea* Forest  
7737 *Quercus michauxii* / *Carpinus caroliniana* - *Ilex opaca* / *Leucothoe racemosa* Forest  
7738 *Pinus palustris* - *Pinus taeda* / *Schizachyrium scoparium* Woodland  
4620 *Vitis rotundifolia* - *Ampelopsis arborea* - *Campsis radicans* Vine-Shrubland  
8000 Plantation Pine  
8100 Successional Pine - Mixed Hardwood Upland Forest  
7000 Water  
9000 Landuse

Defines Disturbance (STAND\_DIS)

0 = No disturbance noted

1 = Disturbance in the canopy

Defines Pre-Hurricane Hugo Signature Types  
(HURSIG)

Same as PI signature code

Defines Pre-Hurricane Hugo Community Types  
(HURTNC)

Same as TNC code

Defines Land Use

(LANDUSE)

100=Urban

110=Residential

120=Commercial and Services

121=Park Headquarters

122=Miscellaneous Park Structure

130=Industrial

140=Transportation and Utilities

141=Road

142=Parking

143=Utility Line

150=Mixed Urban or Built Up

160=Other Urban or Built Up

200=Agriculture

210=Active Field

220=Abandoned Field

300=Natural Vegetation

400=Water

Defines Pine Loss Areas

(PINE)

0 = No Pine Loss

1 = Pine Loss

STAND\_DIS (Defines Disturbance)

TNC (Communities and Variants)

PI (Defines Signature Type)

HURSIG (Pre-Hurricane Signature Type)

HURTNC (Pre-Hurricane Community Type)

LANDUSE (Defines Land Use)

PINE (Defines Pine Loss Areas)

Entity\_and\_Attribute\_Detail\_Citation:

Grossman, D. Et al. 1994. National Park Service Vegetation Mapping Project, Standardized National

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Vegetation Classification System 209 pp.

**Distribution\_Information:**

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**Address:** PO Box 25046, DFC, MS302

**City:** Denver

**State\_or\_Province:** Colorado

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**Country:** USA

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**Resource\_Description:** COSW Veg Map

**Distribution\_Liability:**

Although these data have been processed successfully on a computer system at the U.S. Geological Survey, no warranty expressed or implied is made regarding the accuracy or utility of the data on any other system or for general or scientific purposes, nor shall the act of distribution constitute any such warranty. This disclaimer applies both to individual use of the data and aggregate use with other data. It is strongly recommended that these data are directly acquired from a U.S. Geological Survey server, and not indirectly through other sources which may have changed the data in some way. It is also strongly recommended that careful attention be paid to the contents of the metadata file associated with these data. The U.S. Geological Survey shall not be held liable for improper or incorrect use of the data described and/or contained herein.

**Standard\_Order\_Process:**

**Digital\_Form:**

**Digital\_Transfer\_Information:**

**Format\_Name:** HTML

**Digital\_Transfer\_Option:**

**Online\_Option:**

**Computer\_Contact\_Information:**

**Network\_Address:**

**Network\_Resource\_Name:** [http://biology.usgs.gov/npsveg/cosw/index.html#geospatial\\_veg\\_info](http://biology.usgs.gov/npsveg/cosw/index.html#geospatial_veg_info)

**Fees:** none

**Metadata\_Reference\_Information:**

**Metadata\_Date:** 200110

**Metadata\_Review\_Date:** 20060830

**Metadata\_Contact:**

**Contact\_Information:**

**Contact\_Organization\_Primary:**

**Contact\_Organization:** USGS-NPS Vegetation Mapping Program Coordinator

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**Address\_Type:** mailing and physical address

**Address:**

**USGS-NPS Vegetation Mapping Program**  
**Congaree Swamp National Monument**

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Contact\_Facsimile\_Telephone: (303) 202-4219  
Contact\_Electronic\_Mail\_Address: gs-b-npsveg@usgs.gov  
Metadata\_Standard\_Name: FGDC-STD-001.1-1999 Content Standard for Digital Geospatial Metadata, 1998 Part 1:  
Biological Data Profile, 1999  
Metadata\_Standard\_Version: FGDC-STD-001-1998  
Metadata\_Extensions:  
Online\_Linkage: <http://biology.usgs.gov/fgdc.bio/bionwext.txt>  
Profile\_Name: Biological Data Profile FGDC-STD-001.1-1999